

CLAIMS

What is claimed is:

1 1. A method for cooling a storage device contained in a computer, the
2 method comprising:
3 determining the temperature of the storage device; and
4 adjusting computer operation so as to reduce the temperature of the storage
5 device if that temperature is deemed to be too high.

1 2. The method of claim 1, wherein determining the temperature of the
2 storage device comprises measuring the temperature of the storage device using a
3 temperature sensor provided in or on the storage device.

1 3. The method of claim 1, wherein measuring the temperature of the
2 storage device comprises measuring the temperature of the storage device using a
3 thermal diode of the storage device.

1 4. The method of claim 1, wherein adjusting computer operation so as to
2 reduce the temperature of the storage device comprises increasing the speed of a fan
3 contained within the computer.

1 5. The method of claim 1, wherein adjusting computer operation so as to
2 reduce the temperature of the storage device comprises adjusting the operation of a
3 processor contained within the computer.

1 6. The method of claim 5, wherein adjusting the operation of a processor
2 comprises reducing the clock speed of the processor.

1 7. The method of claim 5, wherein adjusting the operation of a processor
2 comprises reducing a voltage provided to the processor.

1 8. The method of claim 1, wherein adjusting computer operation so as to
2 reduce the temperature of the storage device comprises shutting down the computer.

1 9. The method of claim 1, wherein adjusting computer operation so as to
2 reduce the temperature of the storage device comprises first increasing the speed of a
3 fan contained in the computer and, if the storage device is later determined to still be
4 too hot, reducing one or both of a clock speed of and a voltage provided to a processor
5 contained in the computer and, if the storage device is still later determined to be too
6 hot, shutting down the computer.

1 10. The method of claim 1, further comprising data regarding temperature
2 operating parameters of the storage device and using that data to determine whether
3 the storage device is or is not too hot.

1 11. A method for cooling a storage device contained in a computer, the
2 method comprising:

3 periodically measuring the temperature of the storage device with a
4 temperature sensor provided in or on the storage device; and

5 periodically providing temperature data including the measured temperature
6 and temperature operating parameters for the storage device to a basic input/output
7 system (BIOS) so that the BIOS can control operation of the computer in an effort to
8 cool the storage device.

1 12. The method of claim 11, wherein periodically measuring the
2 temperature of the storage device comprises measuring the temperature of the storage
3 device in response to commands received by a storage device driver stored in memory
4 of the computer.

1 13 The method of claim 11, wherein periodically measuring the
2 temperature of the storage device comprises measuring the temperature of the storage
3 device using a thermal diode.

1 14. The method of claim 11, wherein periodically providing temperature
2 data comprises providing the data to a storage device driver of the computer that
3 provides the data to the BIOS.

1 15. The method of claim 11, wherein periodically providing temperature
2 data comprises providing information regarding an ideal temperature operating range
3 and a critical temperature to the BIOS.

1 16. A system for cooling a storage device in a computer, the system
2 comprising:

3 means for measuring the temperature of the storage device, the means being
4 directly associated with the storage device;

5 means for sending the measured temperature; and

6 means for adjusting operation of the computer in relation to the measured
7 temperature.

1 17. The system of claim 16, wherein the means for measuring comprise a
2 temperature sensor provided in or on the storage device.

1 18. The system of claim 17, wherein the means for measuring comprise a
2 thermal diode.

1 19. The system of claim 17, wherein the means for sending the measured
2 temperature comprise a controller of the storage device.

1 20. The system of claim 17, wherein the means for adjusting operation of
2 the computer comprise a basic input/output system (BIOS).

1 21. The system of claim 20, wherein the BIOS is configured to increase
2 the speed of a fan contained in the computer, reduce one or both of a clock speed of
3 and a voltage provided to a processor contained in the computer, or shut down the
4 computer if the storage device is too hot.

1 22. A system stored on a computer-readable medium, the system
2 comprising:

3 logic configured to read a temperature of a storage device;

4 logic configured to command the logic configured to read a temperature to
5 read that temperature; and

6 logic configured to receive the read temperature and to control operation of a
7 computer relative to the read temperature.

1 23. The system of claim 22, wherein the logic configured to read a
2 temperature is configured to reside in memory of the storage device.

1 24. The system of claim 22, wherein the logic configured to command the
2 logic configured to read a temperature comprises a storage device driver.

1 25. The system of claim 22, wherein the logic configured to receive the
2 read temperature and to control operation of a computer comprises a computer basic
3 input/output system (BIOS).

1 26. A thermal monitor, comprising:
2 logic configured to command a storage device driver to periodically collect
3 temperature data from a storage device; and
4 logic configured to provide the collected temperature data to a computer basic
5 input/output system (BIOS) to enable the BIOS to control operation of the computer
6 in a manner so as to cool the storage device.

1 27. A computer basic input/output system (BIOS), comprising:
2 logic configured to receive a temperature of a storage device measured by the
3 storage device;
4 logic configured to compare the measured temperature with temperature
5 operating parameters for the storage device; and
6 logic configured to control operation of a computer in which the storage
7 device is provided in a manner that reduces the temperature of the storage device.

1 28. The BIOS of claim 27, wherein the logic configured to control
2 operation of a computer comprises logic configured to increase the speed of a fan
3 contained in the computer, reducing one or both of a clock speed of and a voltage
4 provided to a processor contained in the computer, or shut down the computer if the
5 storage device is too hot.